WHAT IS CLAIMED IS:

1. An image pickup apparatus comprising:

a plurality of pixels each including a photoelectric converting element;

a plurality of capacitor which receive signals from said plurality of pixels at first terminals;

a plurality of clamping switches for setting a second terminal of each of said plurality of capacitor into a predetermined electric potential;

a plurality of first storing units for storing signals from said second terminals of said plurality of capacitor;

a plurality of second storing units for storing the signals from said second terminals of said plurality of capacitor;

a first common output line to which the signals from said plurality of first storing units are sequentially output;

a second common output line to which the signals from said plurality of second storing units are sequentially output; and

a difference circuit for operating a difference between the signal from said first common output line and the signal from said second common output line.

2. An apparatus according to claim 1, wherein each of said plurality of pixels includes a first

amplifying element for amplifying and outputting a signal from said photoelectric converting element and a reset switch for resetting an input portion of said first amplifying element.

3. An apparatus according to claim 2, further comprising a second amplifying element for amplifying and outputting the signal from said second terminal of said capacitor, and

wherein the signal from said second amplifying element is transferred to said first storing unit and said second storing unit.

4. An apparatus according to claim 1, wherein said first storing unit includes a first transfer gate and a first holding capacitor for holding the transferred signal, and said second storing unit includes a second transfer gate and a second holding capacitor for holding the transferred signal, and

wherein said image pickup apparatus further comprises a driving circuit arranged so that after said clamping switch is turned off at a first timing, said clamping switch is continuously held in an OFF state and said first transfer gate is closed at a second timing, thereby holding a first signal which is obtained from said second terminal of said capacitor into said first holding capacitor, and

after said clamping switch is turned off at the first timing, said clamping switch is continuously held in the OFF state and said second transfer gate is closed at a third timing, thereby holding a second signal which is obtained from said second terminal of said capacitor into said second holding capacitor.

5. An apparatus according to claim 3, wherein said driving circuit effects driving so that the second terminal of said capacitor is set into said predetermined electric potential by turning on said clamping switch, the signal which is obtained from said first amplifying element by resetting the input portion of said first amplifying element is transferred to the first terminal of said capacitor, said clamping switch is turned off and thereafter said first signal which is obtained from the second terminal of said capacitor is held in said first storing unit, after that, a signal, which is output from said first amplifying element, including the photoelectric conversion signal from said photoelectric converting element is transferred to the first terminal of said capacitor, and said second signal which is obtained from the second terminal of said capacitor is held in said second storing unit.

6. An apparatus according to claim 3, wherein

said driving circuit effects driving so that the second terminal of said capacitor is set into said predetermined electric potential by turning on said clamping switch, then a signal, which is output from said second amplifying element, including the photoelectric conversion signal from said photoelectric converting element is transferred to the second terminal of said capacitor, said clamping switch is turned off and thereafter said first signal which is obtained from the second terminal of said capacitor is held in said first storing unit, the signal which is obtained from said second amplifying element by resetting the input portion of said second amplifying element is transferred to the first terminal of said capacitor, and said second signal which is obtained from the second terminal of said capacitor is held in said second storing unit.

7. An apparatus according to claim 1, wherein said plurality of pixels are two-dimensionally arranged in a horizontal direction and a vertical direction,

wherein said image pickup apparatus further comprises an analog/digital converting circuit for converting a signal output from said difference circuit into a digital signal and a correcting circuit for correcting the signal from said

analog/digital converting circuit, and

wherein said correcting circuit has one-dimensional correction data and corrects the signals from said plurality of pixels arranged two-dimensionally on the basis of said one-dimensional correction data.

8. An apparatus according to claim 7, wherein said correction data includes noise components which are generated in the case of turning off said clamping switch.

9. An apparatus according to claim 7, wherein said correction data includes noise components which are generated in the case of turning off said second amplifying element.